



Federal Utility Partnership Working Group Seminar

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The Current Threat Environment

Acquisition and Sustainment

*"It is now undeniable that the **homeland is no longer a sanctuary**. America is a target, whether from terrorists seeking to attack our citizens; malicious cyber activity against personal, commercial, or government infrastructure ... attacks against our critical defense, government, and economic infrastructure must be anticipated."*

- National Defense Strategy, 2018

*"Since at least March 2016, Russian government cyber actors—hereafter referred to as **"threat actors"**—targeted government entities and multiple U.S. critical infrastructure sectors, including the energy, nuclear, commercial facilities, water, aviation, and critical manufacturing sectors."*

- Alert TA18-074A, FBI/DHS, US Computer Emergency Readiness Team (CERT)



DoD Installation Energy Goals

Acquisition and Sustainment

DoD installations *empower* DoD to defend the homeland and remain the preeminent military in the world

How?

Resilient, secure energy infrastructure supports the NDS Lines of Effort

Rebuild military readiness

- ❑ Implement mission-based priorities and targeted metrics in conjunction with diverse generation sources, technologies and integrated with cybersecurity protections

Strengthen alliances and attract new partners

- ❑ Bolster DoD-internal and EGCC communication to strengthen data gathering and collaboration with industry partners, aligning to resolve challenges

Reforming the Department's business practices

- ❑ Use scenario-based planning, modeling, and quantitative energy assessments to evaluate challenges of complex threats, to mitigate risk, and to verify progress against mission-based metrics

*DoD Installation Energy drives solutions that are:
Prioritized by Mission, Informed by Metrics, and Validated by Results.*



Evolution of Energy Resilience in DoD

Acquisition and Sustainment

USG adapts law to meet the changing threat environment

2016

Installation Energy Pillars

- Expand Supply
- Reduce Demand
- Adapt Future Forces & Technology

Focus: Department-wide priority on federal and Service-specific efficiency mandates:

- EISA 2007, EPACT 2005
- 10 U.S.C. §2911e
- EOs 13423, 13514

Result: *Installation energy solutions measured by how a Service or specific Installation meets goals*

Theme: Installation Energy solutions are the result of disparate stakeholders solving for different requirements

2017

Installation Energy Pillars

- Expand Supply
- Reduce Demand
- *Enhance Energy Resilience*

Focus: Federal and Service-specific efficiency mandates continue, although resilience has entered into the discussion:

- EISA 2007, EPACT 2005
- 10 U.S.C. §2911e
- EO 13693

Result: *Resilience becomes a factor in planning and implementing solutions*

Theme: Stakeholders begin to solve for the same/similar requirements, but the solutions still often differ

2018

Installation Energy Pillars

Enhance Energy Resilience ISO the 2018 NDS

- Rebuilding Military Readiness
- Strengthening Alliances & Attract New Partners
- Reforming Business Practices

Focus: Support the 2018 NDS Lines of Effort. Federal mandates driven by:

- Does this support mission readiness?

Result(s):

- *Resilience is THE planning factor. Resilience is binary – power makes it to the mission or it does not.*
- *Efficiency and savings count for nothing if the solution doesn't power the mission.*
- *Prioritization of solutions by support of critical missions*

Theme: Installation Energy requirements are based on mission owner requirements. Mission owners outline “X” and Installations solve for “X”



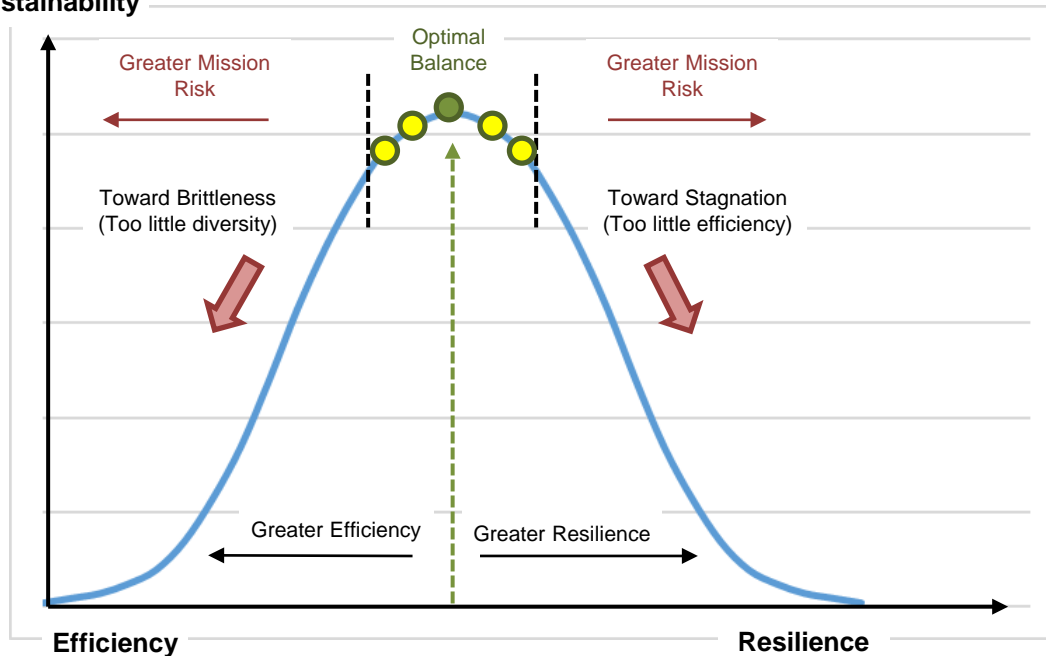
But What is “Energy Resilience” in DoD?

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Newly defined in 10 U.S.C §101, “Energy Resilience” is...

“...the ability to avoid, prepare for, minimize, adapt to, and recover from anticipated and unanticipated energy disruptions in order to ensure energy availability and reliability sufficient to provide for mission assurance and readiness, including task critical assets and other mission essential operations related to readiness, and to execute or rapidly reestablish mission essential requirements.”

Sustainability



Efficiency versus Resilience in a System*

Resilience on DoD Installations:

- (a) Balances flexibility, reliability, and resistance (**Resilience**) with honest acknowledgement of resource constraints (**Efficiency**)
- (b) Keeps a clear focus on the single most important metric: **Effectiveness**



Which Means...

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Measuring energy resilience at DoD installations boils down to ONE, binary question -

" Does the mission have the power it needs?"

☐ **YES**

☐ **NO**

- ☐ *What*
- ☐ *Where*
- ☐ *When*

$$\text{Mission Availability} = \frac{\text{Uptime}}{\text{Uptime} + \text{Downtime}}$$

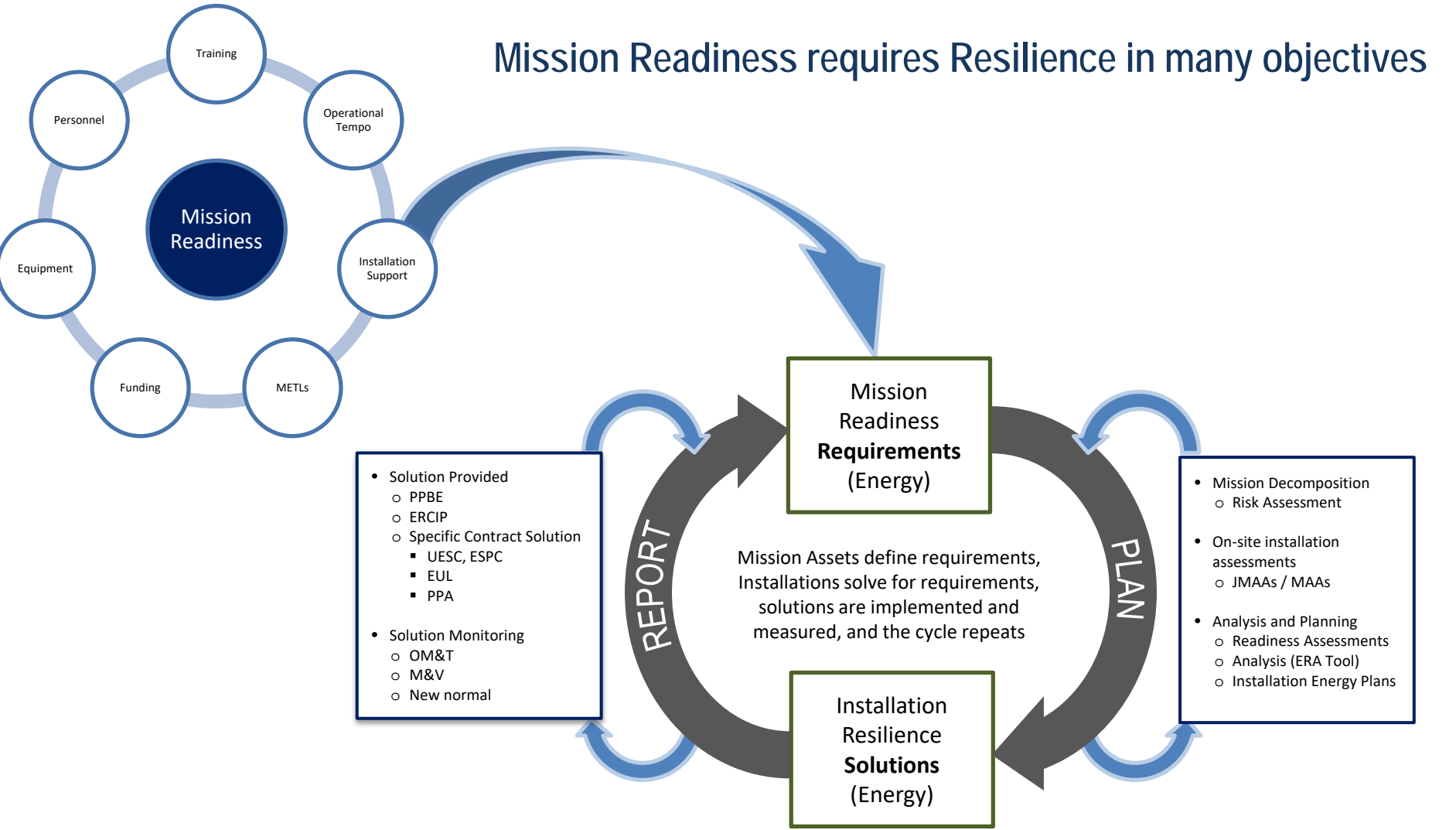
All of the new efficient technologies, data gathering processes, or refined business practices are wasted if missions don't have power!



The Energy Resilience Input Into Readiness

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Mission Readiness requires Resilience in many objectives





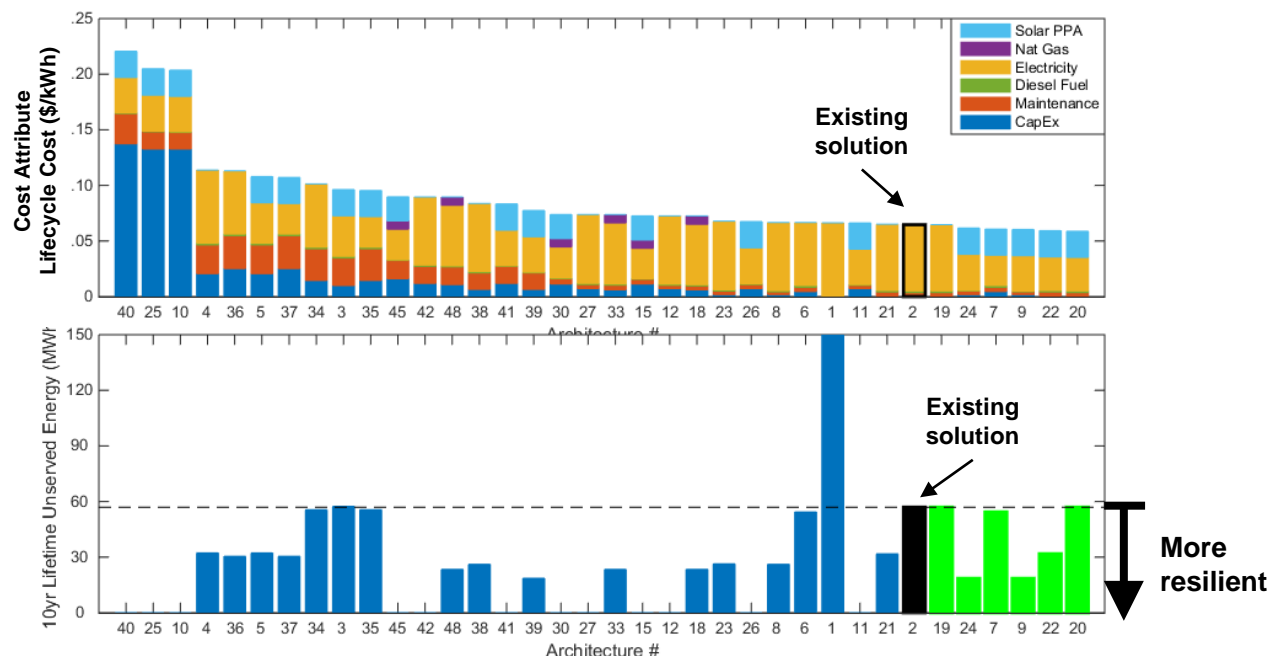
Measuring & Improving Mission Availability

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The OSD Energy Resilience Assessment (ERA) Tool

Match Solution to Mission Requirement while:

- Reducing upfront capital, operations, maintenance, and testing costs
- Improving reliability and increasing utility bill savings



MODEL OUTPUT 1 Quantifying the Cost of Potential Architectures

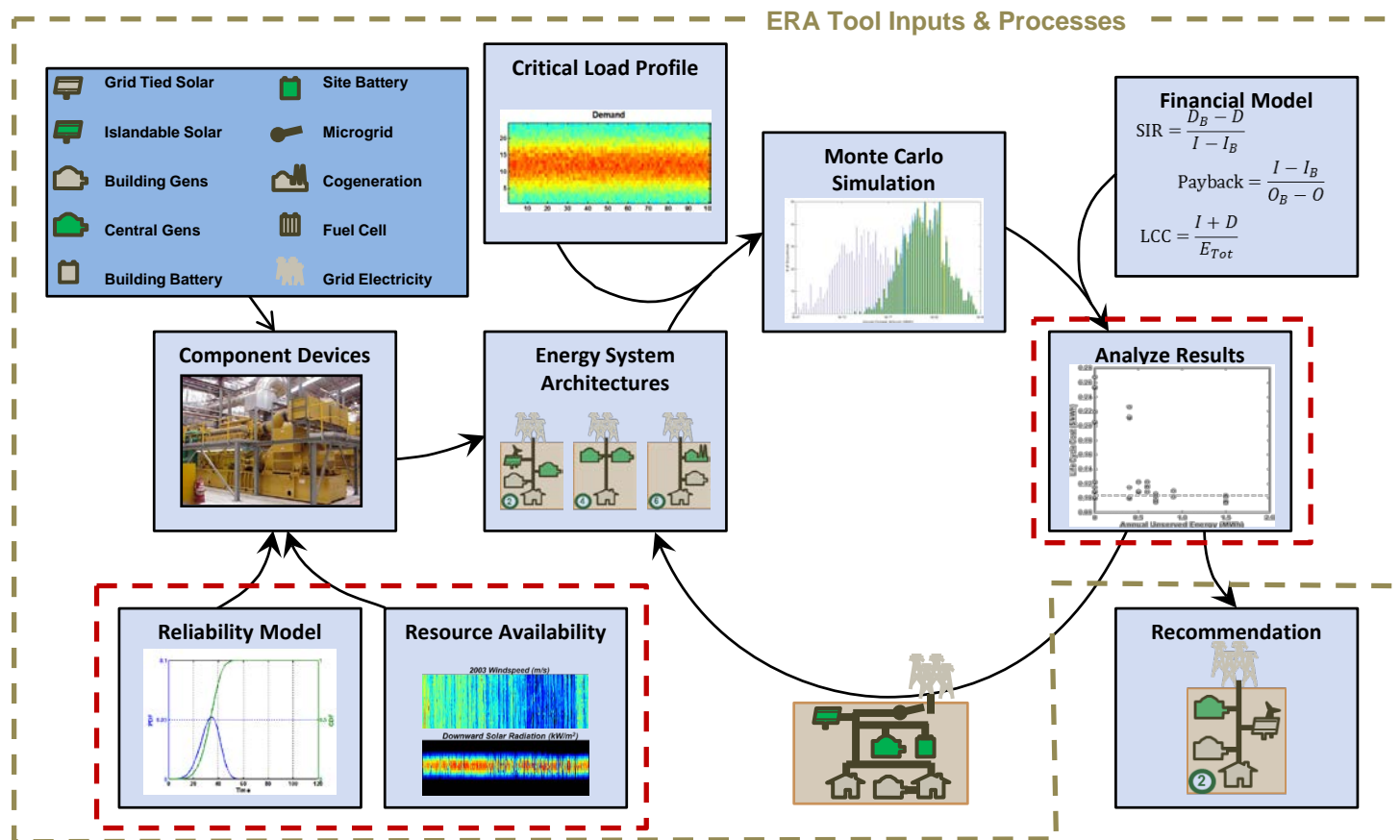
Full spectrum of potential solutions that is agnostic to actual DoD budget

MODEL OUTPUT 2 Quantifying the Unserved Load for each Potential Architecture

Focuses on the effectiveness of potential solution



- Web-Based Roll-Out – available to Services
- Under the Hood – improving the tool's processes
- Assumptions Updates – improving underlying model assumptions on cost and technologies

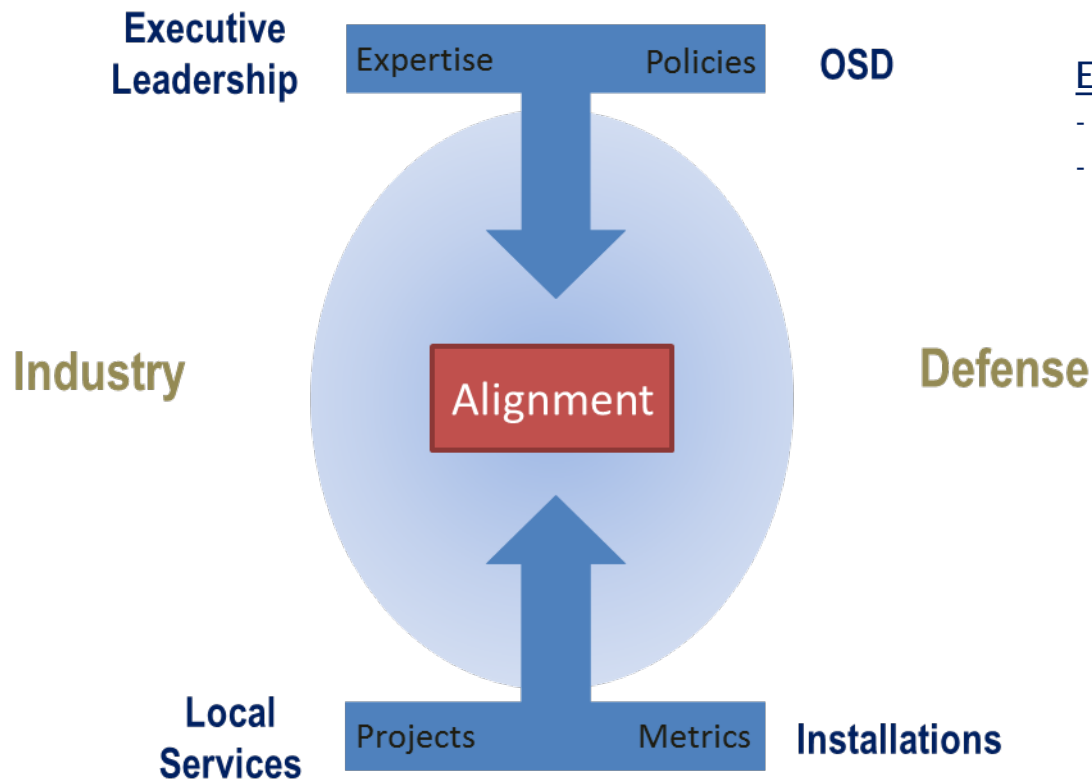




How You Can Help

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- 1) Understand the Strategy
- 2) Align at all levels with the Strategy in mind



Energy Sector Government Coordinating Council

- Electricity Subsector Coordinating Council
- Oil and Natural Gas Coordination Council

Installations

- Installation Commanders & Staff
- Adjacent Communities & Governments